

**AMENDMENTS TO THE CLAIMS**

This listing of claims will replace all prior versions, and listings, of claims in the present application.

**Listing of Claims:**

1. **(Previously Presented)** An isolated or purified antimicrobial agent obtained from a strain of *Lactobacillus salivarius* isolated from resected and washed human gastrointestinal tract which inhibits a broad range of Gram positive and Gram negative microorganisms and which secretes a product having antimicrobial activity into a cell-free supernatant,

wherein said antimicrobial activity being produced only by growing cells;

said antimicrobial activity being destroyed by proteinase K and pronase E;

the inhibitory properties of said strain and secretory products thereof being maintained in the presence of physiological concentrations of human bile and human gastric juice, and

said antimicrobial agent has bacteriocin-like properties.

2. **(Previously Presented)** The isolated or purified antimicrobial agent according to Claim 1, which has the following properties:

- (i) an apparent molecular weight between 30 and 100 kDa;
- (ii) heat stability;
- (iii) stable over a wide pH range;
- (iv) resistant to treatment with detergents;
- (v) resistant to organic solvents;

- (vi) sensitive to proteolytic enzymes including proteinase K, pronase E, trypsin,  $\alpha$  - chymotrypsin, ficin and papain; and
- (vii) resistant to lipase, catalase, alkaline phosphatase, phospholipase C and lipoprotein lipase.

3. **(Withdrawn)** A purified fraction of the isolated or purified antimicrobial agent according to Claim 2, which has the following properties:

- (i) a molecular weight of 5.0 - 5.3 kDa;
- (ii) a relative amino acid composition which has greater than 45% of hydrophobic amino acids, 19-21% glycine, 13-14% alanine and 11-12% leucine, no tryptophan or tyrosine, one methionine and four proline residues;
- (iii) an amino acid sequence SEQ ID NO: 1 at or adjacent to the N-terminus; and
- (iv) comprises an amino acid sequence SEQ ID NO: 2.

4. **(Withdrawn)** A purified fraction of the isolated or purified antimicrobial agent according to Claim 2, which has the following properties:

- (i) a molecular weight of 5.3 - 6.1 kDa; and
- (ii) a relative amino acid composition which has greater than 28-30% of hydrophobic amino acids, 17% glycine and 12-13% alanine, no tryptophan and two proline residues.

5. **(Previously Presented)** The isolated or purified antimicrobial agent according to claim 1 or 2 for use in foodstuffs.

6. **(Previously Presented)** The isolated or purified antimicrobial agent according to claim 1 or 2 for use as a medicament.

7. **(Previously Presented)** The isolated or purified antimicrobial agent according to claim 1 or 2 for use against methicillin resistant *S. aureus* (MRSA).

8. **(Canceled)**

9. **(Previously Presented)** An isolated or purified antimicrobial agent obtained from a strain of *Lactobacillus salivarius* isolated from resected and washed human gastrointestinal tract which inhibits a broad range of Gram positive and Gram negative microorganisms, is adherent to Caco-2 and HT-29 cells and secretes a product having antimicrobial activity into a cell-free supernatant,

wherein said antimicrobial activity being produced only by growing cells;

said antimicrobial activity being destroyed by proteinase K and pronase E;

the inhibitory properties of said strain and secretory products thereof being maintained in the presence of physiological concentrations of human bile and human gastric juice, and

said antimicrobial agent has bacteriocin-like properties.

10. (New) An isolated or purified bacteriocin or proteinaceous compound obtained from a strain of *Lactobacillus salivarius*,

wherein said *Lactobacillus salivarius* is isolated from resected and washed human gastrointestinal tract which inhibits a broad range of Gram positive and Gram negative microorganisms, is adherent to Caco-2 and HT-29 cells, and secretes a product having antimicrobial activity into a cell-free supernatant;

wherein said antimicrobial activity being produced only by growing cells;

said antimicrobial activity being destroyed by proteinase K and pronase E; and

said bacteriocin or proteinaceous compound has the following properties:

- (i) an apparent molecular weight between 30 and 100 kDa;
- (ii) stable over a pH range of 1-10;
- (iii) sensitive to proteinase K, pronase E, trypsin,  $\alpha$  - chymotrypsin, ficin and papain;  
and
- (iv) resistant to lipase, catalase, alkaline phosphatase, phospholipase C and lipoprotein lipase.